

REMARKS

Claims 1-22, 25-34, and 37-40 have been examined, with all claims rejected based on prior art. Claims 1-5, 9-16, 20-22, 25, 26, 29-32, 34, 35, and 37-40¹ have been rejected under 35 U.S.C. 103(a) as being unpatentable over Hobbs et al. (U.S. Patent No. 5,197,138; hereinafter "Hobbs") in view of Wilson et al. (U.S. Patent No. 6,944,736; hereinafter "Wilson"). Claims 6-8, 17-19, 27, 28, 33, and 36 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Hobbs in view of Wilson and Radhakrishna (U.S. Patent No. 6,823,414).

Applicant respectfully traverses these rejections for the following reasons.

The Examiner admits that Hobbs does not disclose the feature "specifying a global interrupt threshold value that is applicable to all of the plurality of active threads," as recited in independent claim 1. It necessarily follows that Hobbs also can not disclose "processing a requested interrupt only when the interrupt priority value of the requested interrupt is higher than the global interrupt threshold value," as also recited in independent claim 1.

These features are not disclosed in Wilson either. As can for example be seen from the abstract, Wilson discloses that a latency manager may generate an interrupt for the operating system, if the estimated access time for procuring data requested from a first process is longer than a predetermined time. In response to this interrupt, the operating system can stop the execution of the first process and start the execution of a second process.

First of all, it should be noted that the present application and Hobbs deal with the processing of interrupts (handling of previously generated interrupts), whereas Wilson deals with the generation of interrupts. More specifically, Wilson discloses the conditions which have to be fulfilled that an interrupt request generated. Wilson is, however, silent about the conditions which have to be fulfilled that the interrupt is really executed. Wilson does not disclose anything about priority values assigned or to be assigned to the respective interrupts, and also nothing about a global interrupt threshold value to be compared with the priority values assigned to the interrupts.

¹ The Examiner includes claim 24 in the rejection, but claim 24 was cancelled.

Furthermore, a method resulting from a combination of features disclosed in Hobbs and Wilson can at least not solve the problem to be solved by the method of independent claim 1 as easy, as fast, and as reliably as the method independent 1. According to paragraph [0010] of the present application, the problem to be solved consists in running a multi-threaded code that properly handles interrupts without generating a priority inversion conditions. What is meant by “priority conversion conditions” can be seen from figure 1 of the present application and the description referring thereto.

It would at least be very difficult and time consuming (or sometimes even impossible) to solve this problem with a method resulting from a combination of features disclosed in Hobbs and Wilson because according to column 2, lines 50-57, in Hobbs, the condition to be fulfilled that an interrupt is serviced consists in that the priority value assigned to the interrupt is higher than the priority value assigned to the presently running thread. This means that all priorities values assigned to all threads and/or all priority values assigned to all interrupts have to be modified if a priority inversion shall reliably be avoided. In contrast thereto, the method of independent claim 1 is sufficient to modify a single value, namely the value of the global interrupt threshold value for reliably avoiding a priority inversion. It is also no problem at all to repeatedly modify the global interrupt threshold value during the operation of the system.

Therefore, the method according to Hobbs / Wilson is completely different from the method of independent claim 1, both with respect to the method steps performed and the result achieved by performing the steps.

Independent claim 1 is therefore patentable over Hobbs in view of Wilson for at least these reasons.

Since independent claims 22, 25, and 29 include limitations similar to the limitation discussed above with respect to independent claim 1, they are patentable over Hobbs in view of Wilson for at least the same reasons.

Claims 2-5, 9-16, 20, 21, 26, 30-32, 34, 35, 37-40 depend from the independent claims, and are therefore patentable over the applied reference for at least the same reasons.

Claims 6-8, 17-19, 27, 28, 33, and 36 depend on the independent claims and stand rejected under 35 U.S.C. § 103(a) in view of the additional Radhakrishna reference. Radhakrishna is not cited to cure Hobbs and Wilson's deficiencies, but rather for its disclosure of other features, which, whether or not it does disclose, fails to cure the noted deficiencies in Hobbs and Wilson. Thus dependent claims 6-8, 17-19, 27, 28, 33, and 36 are patentable over the applied references at least by virtue of their dependence on the independent claims.


In view of the above, Applicant believes the pending application is in condition for allowance.

In the event a fee is required or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 50-2215.

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Respectfully submitted,

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